

**Notice of Allowability**

Application No.

10/691,586

Examiner

Michael Bernshteyn

Applicant(s)

DAIROKU ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/19/2007.
2. ☒ The allowed claim(s) is/are 1-4 and 6-11.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_\_

Michael Bernshteyn  
Patent Examiner  
Art Unit 1713

### **DETAILED ACTION**

1. This Office Action is a response to the remarks filed on March 19, 2007. Claim 1 has been amended; claims 6–11 have been added; no claims have been cancelled.
2. In view of the amendment(s) and remarks, the rejection under 35 U.S.C. 103(a) of claims 1-4 as being unpatentable as obvious over Ballard et al. (U. S. Patent 3,988,509) in view of Wu et al. (U. S. Patent 6,252,016) have been withdrawn.
3. Claims 1-4 and 6-11 are now pending.

### **EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Garrett V. Davis on June 11, 2007.

5. Claim 3 should be amended as following:  
Claim 3, the second line: after the article "a" delete hyphen before the word "liquid".
6. Claim 5 has been cancelled.

### ***Allowable Subject Matter***

7. Claims 1-4 and 6-11 are allowed.

8. The following is examiner's statement of reasons for allowance:

The present claims are allowable over the closest references: Ballard et al. (U. S. Patent 3,988,509) and Wu et al. (U. S. Patent 6,252,016).

Ballard discloses a production process for ethylene copolymers, which comprises as a typical high-pressure, stirred reactor, free radical-initiated, continuous polymerization process in which the benefits of the invention can be realized as illustrated in the Figure. (col. 3, lines 46-68 and col. 4 lines 1-2). Feed stream 1 consists essentially of about 5-20 weight percent (preferably about 10-15 weight percent) of fresh monomer makeup stream 2, about 80-95 weight percent of recycled unreacted monomer streams 3 and 12 and initiator stream 4. Monomer makeup stream 2 is a mixture of ethylene with one or more copolymerizable monomers (such as vinyl acetate) and accordingly, unreacted monomer stream 3 will contain ethylene and unreacted comonomer. Initiator stream 4, comprising a solution of a conventional reaction initiator...suitable for the temperature at which the polymerization is being run, is injected into the feed stream at the entrance to reactor 5. Feed stream 1 enters reactor 5 at a temperature substantially lower (usually 100 C, or more below reaction temperature) than that at which the polymerization is run.

The concentration of the monomers is about 30-50 weight percent less than 30 weight % (col. 26, lines 53-54), and the monomer components as feeding into the polymerization reactor has a temperature in the range of about 0°C – 60°C. (col. 10, lines 38-40 and col. 3, lines 67-68).

Wu discloses a continuous process for preparing polymers which includes the steps of continuously feeding a reaction mixture containing a monomer into a channel, continuously controlling the temperature of the channel, polymerizing the monomer in the channel and continuously removing the polymer the polymer from the channel. Wu discloses that in cases where the monomer emulsion has the tendency to become unstable before polymerization, it can be pre-mixed and thus stabilized before being fed to the non-cylindrical channel (col. 6, lines 49-54). For all Examples, monomer emulsions were prepared by admixing butyl acrylate, metyl methacrylate, methacrylic acid, an anionic surfactant, an electrolyte, a chelating agent, and water in a vessel. The admixture was stirred until an emulsion was formed (col. 7, lines 11-15). In the example #1 a monomer emulsion was fed from monomer tank. The feed tank was equipped with a funnel, a dip pipe, an agitator, cooling capability, and a weigh scale. The monomer emulsion in the feed tank was constantly agitated in order to insure homogeneity. A static mixer was used to mix the catalyst and activator solution with the monomer emulsion (col.7, lines 18-23 and lines 53-55).

However, neither Ballard et al. and Wu et al. disclose or suggest a static mixer in a supply pipe line for carrying a monomer liquid, producing a stirred state of the monomer liquid downstream of a static mixer, or introducing an initiator into a stirred state of the monomer liquid in a supply pipe line, as in instant claim 1.

9. As of the date of this Notice of Allowability, the Examiner has not located or identified any reference that can be used singularly or in combination with another

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reference including Ballard et al. and Wu et al. to render the present invention anticipated or obvious to one of ordinary skill in the art.

10. In the light of the above discussion, it is evident as to why the present claims are patentable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delay, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reason for Allowance".

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

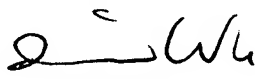
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn  
Patent Examiner  
Art Unit 1713

MB  
06/11/2007

  
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SUPERVISORY PATENT EXAMINER  
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